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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---------------|---------------------------------|----------------------------|------------------|
| 10/520,311 | 01/05/2005 | Michel Paul Barbara Van Bruggen | NL020663US | 2504 |
| 24737 | 7590 | 12/29/2009 | EXAMINER | |
| PHILIPS INTELLECTUAL PROPERTY & STANDARDS | | | VIJAYAKUMAR, KALLAMBELLA M | |
| P.O. BOX 3001 | | | ART UNIT | PAPER NUMBER |
| BRIARCLIFF MANOR, NY 10510 | | | 1793 | |
| MAIL DATE | DELIVERY MODE | | | |
| 12/29/2009 | PAPER | | | |

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The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHEL PAUL BARBARA VAN BRUGGEN,
THEO ARNOLD KOP, and
THEODORA ANTONIA PETRA MARIA KEURSTEN

Appeal 2009-004006
Application 10/520,311
Technology Center 1700

Decided: December 29, 2009

Before CATHERINE Q. TIMM, JEFFREY T. SMITH, and
JEFFREY B. ROBERTSON, *Administrative Patent Judges*.

ROBERTSON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of pending claims 11-20.¹ (Supplemental Appeal Brief filed May 14, 2008, hereinafter "App. Br.," 4). We have jurisdiction pursuant to 35 U.S.C. § 6(b).

We AFFIRM.

THE INVENTION

Appellants describe a polycrystalline alumina component comprising an additive having a particular real in-line transmission (RIT). (Spec. 2:4-14; 3:21-33). Claim 11, reproduced below, is representative of the subject matter on appeal.

11. A polycrystalline alumina component comprising an additive, wherein the polycrystalline alumina component has an average crystal size $\leq 2 \mu\text{m}$, has a relative density higher than 99.95%, and is transparent with a real in-line transmission RIT $\geq 30\%$ measured over an angular aperture of at most 0.5° at a sample thickness of 0.8 mm and with a single wavelength of light λ , and wherein the additive comprises Mg oxide.

THE REJECTIONS

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

| | | |
|--|--------------------|----------------------------|
| Yamamoto | EP 1 053 983 A2 | Nov. 22, 2000 ² |
| Yamamoto | US 6,417,127 B1 | Jul. 9, 2002 ³ |
| Castro | US 2003/0125189 A1 | Jul. 3, 2003 |
| Webster Dictionary, Translucent, 2008. | | |

¹ Claims 1-10 were canceled in Appellants' Response to the Office Action of June 28, 2007. (Response filed September 28, 2007, 7).

² Hereinafter Yamamoto '983.

³ Hereinafter Yamamoto '127.

Aptez et al., “Transparent Alumina: A Light-Scattering Model,” J. Am. Cer. Soc., V 86(3), March 2003, pages 480-486.

The Examiner rejected claims 11-14 and 16-20 under 35 U.S.C. § 103(a) as being unpatentable over Castro.

The Examiner rejected claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Castro in view of Yamamoto ‘127.

The Examiner rejected claims 11-20 under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto ‘983 or Yamamoto ‘127.

ISSUE

Appellants do not separately argue the claims subject to each ground of rejection. As a result, we confine our discussion to appealed claim 11, which contains claim limitations representative of the arguments made by Appellants pursuant to 37 C.F.R. § 41.37(c)(1)(vii).⁴

Appellants argue with respect to each of Castro, Yamamoto ‘983, and Yamamoto ‘127, that the polycrystalline alumina components disclosed therein are not similar enough to the recited polycrystalline component to support the Examiner’s rationale that the prior art polycrystalline components would be expected to possess the RIT recited in the claims. (App. Br. 10-12). Accordingly, the dispositive issue on appeal is:

Have Appellants shown that the Examiner reversibly erred in determining that the polycrystalline alumina component disclosed in each of

⁴ Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2009).

Castro, Yamamoto '983, and Yamamoto '127 would be expected to possess the RIT value recited in claim 11?

We answer this question in the negative.

FINDINGS OF FACT

The record supports the following findings of fact (FF) by a preponderance of the evidence.

1. Appellants' Specification states that RIT can be expressed in the following equation:

$$RIT = (1-R) \exp [-(3\pi^2 G d \Delta n^2) / (2\lambda_O^2)]$$

where R is the coefficient of surface reflection (0.14 for Al_2O_3), d is the sample thickness, G is the average crystal size, Δn is the effective birefringence of alpha-alumina (0.005), and λ_O is the wavelength of the monochromatic incident light in vacuum. (Spec. 2, ll. 4-14).

2. Appellants' Specification states that RIT values of >30% are possible "by the combination of very small crystal sizes [$\leq 2\mu m$] and an extremely high relative density >99.95% implying a very small residual porosity." (Spec. 3, ll. 28-34).
3. Castro discloses polycrystalline alumina that has an average grain size of no greater than 1.0 microns having greater than about 99.8% of the theoretical density of the ceramic material. (Para. [0030] and [0059]).
4. Castro discloses that the polycrystalline material has "substantially zero porosity" as a result of sintering alumina powder and

subjecting the sintered material to hot isostatic pressing (HIP). (Para. [0006]).

5. Both Yamamoto '127 and Yamamoto '983 disclose polycrystalline alumina having a mean particle size of not larger than 1 micron and a relative density of substantially 100%. (Yamamoto '127 col. 3, ll. 3-4, and 22-23, Tables 5 and 6, Ex. 9; Yamamoto '983, para. [0056]-[0058]).
6. Both Yamamoto '127 and Yamamoto '983 disclose polycrystalline alumina that is produced by sintering alumina powder and subjecting the sintered material to HIP treatment. (Yamamoto '127 col. 7, ll. 18-43; Yamamoto '983, para. [0015] and [0016], Tables 5 and 6, Ex. 9)

PRINCIPLES OF LAW

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

"Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his

claimed product. . . . Whether the rejection is based on ‘inherency’ under 35 U.S.C. 102, on ‘prima facie obviousness’ under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same . . . [footnote omitted].” *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977)).

ANALYSIS

We are unpersuaded by Appellants’ arguments that the polycrystalline alumina components of Castro, Yamamoto ‘983, and Yamamoto ‘127 are not sufficiently similar to the recited alumina component to have the RIT recited in the claims. (App. Br. 10-11).

Castro, Yamamoto ‘983, and Yamamoto ‘127 all disclose polycrystalline alumina components having an average crystal size and relative density falling within the ranges recited in the claims. (FF 3 and 5). Thus, though Castro, Yamamoto ‘983, and Yamamoto ‘127 characterize their polycrystalline alumina components as “translucent,” (see App. Br. 11-12), Castro, Yamamoto ‘983, and Yamamoto ‘127 possess the properties relied on by Appellants as making possible the RIT recited in the claims. (FF 1 and 2). Further, Castro, Yamamoto ‘983, and Yamamoto ‘127 also disclose sintering alumina powder and subjecting the sintered product to HIP treatment, which is the same method applied by Appellants. (FF 4 and 6; claim 16). Accordingly, the Examiner provided proper basis to shift the burden to Appellants to prove that the polycrystalline components of Castro, Yamamoto ‘983, and Yamamoto ‘127 do not necessarily possess the recited RIT. Appellants have not provided any persuasive evidence to overcome the Examiner’s position.

Although Appellants contend that the polycrystalline alumina components of Yamamoto '983 have an RIT of 25% (App. Br. 11-12), claim 11 does not specify a particular wavelength of light λ . Therefore, Appellants' argument is not persuasive, because it is not commensurate in scope with the instant claims. Appellants have provided no persuasive evidence that an adjustment in wavelength would fail to produce a RIT of >30%, particularly where the polycrystalline alumina components of Yamamoto '983 have an average crystal size and relative density falling within the ranges recited in the claims and are produced by the same method as Appellants' polycrystalline alumina components.

CONCLUSION

Appellants have failed to demonstrate that the Examiner reversibly erred in determining that the polycrystalline alumina component disclosed in each of Castro, Yamamoto '983, and Yamamoto '127 would be expected to possess the RIT value recited in claim 11.

ORDER

We affirm the Examiner's decision rejecting claims 11-20 under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. §1.136(a)(1)(iv).

AFFIRMED

Appeal 2009-004006
Application 10/520,311

PL initial:
sld

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